



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,977	12/31/2001	Douglas Neal Fuller	DF01-001	9586
7590	09/16/2005			
Dr. Douglas Neal Fuller 2643 Colgan Court Atlanta, GA 30317-2549			EXAMINER	BROWN JR, NATHAN H
			ART UNIT	PAPER NUMBER
			2121	
DATE MAILED: 09/16/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/038,977	FULLER, DOUGLAS NEAL
	Examiner Jerry Zhu	Art Unit 2121

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on \_\_\_\_.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-21 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_ is/are allowed.  
 6) Claim(s) 1-21 is/are rejected.  
 7) Claim(s) \_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

the invention as disclosed in claims 1-21 is directed to non-statutory subject matter.

1. Claims 1-21 are method claims whose steps are not practiced on a computer, electronic devices, electrical machines, mechanical apparatus, or anything concrete and tangible instruments or equipments. These steps are just abstract procedures manipulating abstract concepts. Therefore, it is clear that these claims are not limited to practice in the technological arts. On that basis alone, they are clearly nonstatutory.
2. Regardless of whether any of the claims are in the technological arts, claims 1-21 are just manipulating abstract ideas. Congress intended statutory subject matter to 'include anything under the Sun that is made by man.' *Diamond v. Diehr*, 450 U.S. at 182, 209 USPQ at 6. "This Court has undoubtably recognized limits to §101 and every discovery is not embraced within the statutory terms. Excluded from such patent protection are laws of

nature, physical phenomena and abstract ideas." *Id.* at 185, 209 USPQ at 7. A claim that covers any and every possible way that the steps can be performed is a disembodied "abstract idea" because there is no particular implementation of the idea. See *Gottschalk vs. Benson*, 409 U.S. at 68, 175 USPQ at 675 (The Supreme Court discussed the cases holding that a principle, in the abstract, cannot be patented and then stated: "Here is the 'process' claim is so abstract and sweeping as to cover both known and unknown uses of the BCD to pure binary conversion. The end use may ... be performed through any existing machinery or future-devised machinery or without any apparatus.")

Furthermore, in the case *In re Warmerdam*, the Federal Circuit held that:

...The dispositive issue for assessing compliance with Section 101 in this case is whether the claim is for a process that goes beyond simply manipulating 'abstract ideas' or 'natural phenomena' ... As the Supreme Court has made clear, '[a]n idea of itself is not patentable, ... taking several abstract ideas and manipulating them together adds nothing to the basic equation. *In re Warmerdam* 31 USPQ2d at 1759 (emphasis added).

Since the Federal Circuit held in *Warmerdam* that this is the "dispositive issue" when it judged the usefulness, concreteness, and tangibility of the claim limitations in that case. Examiner in the present case views this holding as the dispositive issue for determining whether a claim is "useful, concrete, and tangible" in similar cases. Accordingly, the Examiner finds that the method claims manipulate a set of abstract ideas such as "population," "members," "rules," and "behavior." (i.e., what population it is? Population of marbles, animals, vehicles, people how have pets?) Clearly, manipulation of abstract ideas such as parameters, characteristics of abstract population is provably even more abstract (and thereby less limited in practical application) than pure "mathematical algorithms" which the Supreme Court has held are per se nonstatutory - in fact, it *includes* the expression of nonstatutory mathematical algorithms. Since the claims are not limited to exclude such abstractions, the broadest reasonable interpretation of the claim limitations includes such abstractions. Therefore, the claims are impermissibly abstract under 35 U.S.C. § 101.

3. Regardless of whether any of the claims are abstract nor not, none of them is limited to practical applications in the technological arts. There is no physical transformation either inside or outside of a computer as the result of performing the method. Examiner finds that *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) controls the 35 USC §101 issues on that

point for reasons made clear by the Federal Circuit in *AT&T Corp. v. Excel Communications, Inc.*, 50 USPQ2d 1447 (Fed. Cir. 1999). Specifically, the Federal Circuit held that the act of:

...[T]aking several abstract ideas and manipulating them together adds nothing to the basic equation. *AT&T v. Excel* at 1453 quoting *In re Warmerdam*, 33 F.3d 1354, 1360 (Fed. Cir. 1994).

Examiner finds no evidence in the claims that manipulating "sub-population" using "rules" produces any concrete, tangible, practical, chemical, physical, or business transformation.

Examiner bases his position upon guidance provided by the Federal Circuit in *In re Warmerdam*, as interpreted by *AT&T v. Excel*. This set of precedents is within the same line of cases as the *Alappat-State Street Bank* decisions and is in complete agreement with those decisions. *Warmerdam* is consistent with *State Street's* holding that:

Today we hold that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation because it produces 'a useful, concrete and tangible result' – a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades. (emphasis added) *State Street Bank* at 1601.

That case later eliminated the "business method exception" in order to show that business methods were not *per se* nonstatutory, but the court clearly *did not* go so far as to make business methods *per se* statutory. A plain reading of the excerpt above shows that the Court was *very specific* in its definition of the new *practical application*. It would have been much easier for the court to say that "business methods were *per se* statutory" than it was to define the practical application in the case as "...the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price..."

Additionally, the court was also careful to specify that the "useful, concrete and tangible result" it found was "a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades." (i.e. the trading activity is the further practical use of the real world monetary data beyond the transformation in the computer - i.e., "post-processing activity".)

Applicant cites no such specific results to define a useful, concrete and tangible result. Neither does Applicant specify the associated practical application with the kind of specificity the Federal Circuit used.

Assuming that the claims fall within the category of a "process" under §101, the steps are so broadly recited, without regard to any tangible way of implementing them, that they are directed to the "abstract idea" itself and the claims are nonstatutory subject matter under the "abstract idea" exception. The abstract ideas comprising the steps are not instantiated into some specific physical implementation. Nor are there any minor physical acts, such as recording, that might be construed as an implementation of the abstract idea.

Where a claim is broad enough to read on both statutory subject matter (machine implementation or physical transformation of physical subject matter) as well as nonstatutory subject matter (an abstract idea), the best position is to hold the claimed subject matter to be nonstatutory because, while a claim is a pending and can be amended, a claim's meaning should be delimited by express terms rather than claim interpretation. *Cf. In re Lintner*, 458 F. 2d 1013, 1015, 173 USPQ 560, 562 (CCPA 1972) ("Claims which are broad enough to read on obvious subject matter are unpatentable even though they also read on non-obvious subject matter.").

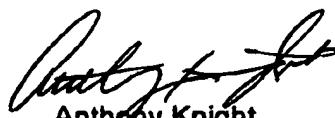
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Zhu whose telephone number is (571) 272-4237. The examiner can normally be reached on 8:30 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on (571) 272-3687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jerry Zhu  
Examiner  
Art Unit - 2121  
2/1/2005



Anthony Knight  
Supervisory Patent Examiner  
Tech Center 2100

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

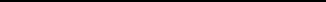
Substitute for Form 1449A/PTO				Complete if Known	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>				Application Number	
				Filing Date	
				First Named Inventor	FULLER
				Art Unit	
				Examiner Name	
Sheet	1	of	3	Attorney Docket Number	DF01-001

123101  
07028977

## U.S. PATENT DOCUMENTS

Examiner Initials'	Cite No. 1	Document Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)	MM-DD-YYYY		
JF	US- 6,272,483	8/7/2001	Jaslin, Clements		
JF	US- 6,269,339	7/31/2001	Silver		
JF	US- 6,223,164	5/24/2001	Seare, et.al.		
JF	US- 6,088,510	7/11/2000	Sims		
JF	US- 5,999,893	12/7/1999	Lynch, et.al		
JF	US- 6,026,397	2/15/2000	Sheppard		
JF	US- 6,272,478	8/7/2001	Obata, et.al.		
JF	US- 6,212,526	4/3/2001	Chaudhuri, et.al.		
JF	US- 6,125,362	9/26/2000	Elworthy		
JF	US- 5,787,420	7/28/2001	Tukay		
JF	US- 5,712,984	1/27/1998	Hammond, et.al.		
JF	US- 6,029,138	2/22/2000	Khorasami, et.al.		
JF	US- 6,202,053	3/13/2001	Christiansen, et.al.		
JF	US- 6,266,656	7/24/2001	Ohno		
JF	US- 6,182,070	1/30/2001	Megiddo, et.al.		
JF	US- 5,187,673	2/16/1993	Carver, Jr., et.al.		
JF	US- 5,790,758	8/4/1998	Streit		
	US-				
	US-				
	US-				

## FOREIGN PATENT DOCUMENTS

Examiner Signature		Date Considered	2/08/05
-----------------------	---	--------------------	---------

**'EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.**

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

**Burden Hour Statement:** This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

2 of 3

### Complete if Known

Application Number	10220101
Filing Date	10/22/01
First Named Inventor	FULLER
Group Art Unit	22
Examiner Name	22
Attorney Docket Number	DF01-001

10/22/01  
12/31/01

### OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No. 1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue numbers(s), publisher, city and/or country where published.	T <sup>2</sup>
JZ	1.	Anderberg, Michael, <u>Cluster Analysis for Applications</u> , Academic Press, New York, 1973.	
JZ	2.	Bock, HH, <u>Classification and Related Methods of Data Analysis</u> , Elsevier Science Publishers, North Holland, 1988	
JZ	3.	Celeux, Gilles and Soromenho, Gilda, "An Entropy Criterion for Assessing the Number of Clusters in a Mixture Model," <i>Journal of Classification</i> , 13, 195-212, 1996	
JZ	4.	Fowles JB et al, "Taking health status into account when setting capitation rates: a comparison of risk-adjustment methods," <i>JAMA</i> 276(16): 1316-21, 1996.	
JZ	5.	Hornbrook, Mark C & Goodman Michael J., "Assessing Relative Health Plan Risk with the Rand 36 Health Survey," <i>Inquiry</i> , 32:1, 56-74, 1995.	
JZ	6.	Hornbrook, Mark C & Goodman Michael J., "Chronic Disease, Functional Health Status, and Demographics: A Multi-Dimensional Approach to Risk Adjustment," <i>Health Services Research</i> , 31:3, 283-307, 1996.	
JZ	7.	Lamers, LM & van Vliet RC, "Multiyear diagnostic information from prior hospitalization as a risk-adjuster for capitation payments," <i>Medical Care</i> , 34:4 549-561, 1996.	
JZ	8.	Lorr, Maurice, <u>Cluster Analysis for Social Scientists</u> , Jossey-Bass Publishers, San Francisco, 1983.	
JZ	9.	Matthews, Geoffrey & Hearne, James, "Clustering Without a Metric," <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , V13N2, p175-184, 1991.	
JZ	10.	Soromenho, Gilda, "Comparing Approaches for Testing the Number of Components in a Finite Mixture Model," <i>Computational Statistics</i> , 9, 65-78, 1994.	
JZ	11.	Nord, Erik, "Health Status Index Models for use in Resource Allocation Decisions," <i>International Journal of Technology Assessment in Health Care</i> , 12:1, 1996.	

Examiner Signature	<i>John M.</i>	Date Considered	10/28/01
--------------------	----------------	-----------------	----------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

**Substitute for form 1449B/PTO**

## **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 3 of 3

**Complete if Known**

**Application Number**

**Filing Date**

**First Named Inventor**

### **Group Art Unit**

**Examiner Name**

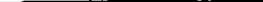
**FULLER**

3912 000 971

### Shee

## OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No. 1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s) publisher city and/or country where published	T <sup>2</sup>
JZ	12.	Anderson, Richard V., "Can Risk-Assessment Tools be Feasibly Used in the Health Benefit Marketplace?", <i>Advances in Health Economics and Health Services Research</i> , 12, JAI Press, 1991.	
JZ	13.	Goodman, Michael J. et al, "Persistence of Health Care Expense in an Insured Working Population," <i>Advances in Health Economics and Health Services Research</i> , 12, JAI Press, 1991.	
JZ	14.	Fuller, Douglas N., "AN EXPLORATION OF POPULATION CLASSIFICATION FOR MANAGED HEALTHCARE WITHIN A STATE-BASED MODELING FRAMEWORK" University of Virginia Dissertation, dated Jan. 2000, published May 22, 2000 (see attached letter from Director of Cataloging Services, University of Virginia Library).	

Examiner Signature		Date Considered	
-----------------------	---	--------------------	--

**\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.**

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

**Burden Hour Statement:** This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

<b>Notice of References Cited</b>		Application/Control No.	Applicant(s)/Patent Under Reexamination	
		10/038,977	FULLER, DOUGLAS NEAL	
Examiner		Art Unit	Page 1 of 1	
Jerry Zhu		2121		

**U.S. PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
A	US-			
B	US-			
C	US-			
D	US-			
E	US-			
F	US-			
G	US-			
H	US-			
I	US-			
J	US-			
K	US-			
L	US-			
M	US-			

**FOREIGN PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
N					
O					
P					
Q					
R					
S					
T					

**NON-PATENT DOCUMENTS**

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
U	Ferry Butar Butar, "Empirical Bayes Methods in Survey Sampling," August, 1997.
V	
W	
X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.